

Appendix A

Prevalence Adjustment Method

Prevalence was adjusted for sensitivity and PPV. No adjustment was made for specificity and NPV. In order to perform the adjustment, we took the original number of cases and used sensitivity and specificity to calculate an adjusted number of cases. This adjusted number of cases was then divided by sample size (N) to obtain the adjusted prevalence. The formulas for our calculations of adjusted cases are included below.

Where:

$$\text{Sen} = \text{TP} / (\text{TP} + \text{FN})$$

$$\text{PPV} = \text{TP} / (\text{TP} + \text{FP})$$

TP= True positive

FN= False negative

FP= False positive

The cases we found using our definition is basically (TP+FP); cases identified correctly plus cases identified incorrectly. Adjustment was done to find (TP+FN); cases identified correctly plus all the cases missed incorrectly. Therefore, our method was:

1. $(\text{TP} + \text{FP}) * \text{PPV} = \text{TP}$
2. $\text{TP} / \text{Sen} = (\text{TP} + \text{FN})$

This can also be expressed as:

1. $(\text{TP} + \text{FP}) * (\text{TP} / (\text{TP} + \text{FP})) = \text{TP}$
2. $\text{TP} / (\text{TP} / (\text{TP} + \text{FN})) = (\text{TP} + \text{FN})$